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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/973,608  | 10/09/2001  | Masoud Azmoodeh      | IVT.0013US          | 6171             |
| 21906   | 7590        | 06/03/2005           | EXAMINER            | LUU, AN T        |
| TROP PRUNER & HU, PC<br>8554 KATY FREEWAY<br>SUITE 100<br>HOUSTON, TX 77024 |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2816                |                  |

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EJC

|                              |                 |                  |
|------------------------------|-----------------|------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)     |
|                              | 09/973,608      | AZMOODEH, MASOUD |
|                              | Examiner        | Art Unit         |
|                              | An T. Luu       | 2816             |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 25 April 2005.

2a) This action is **FINAL**.                                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2-5 and 11-27 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 20-24 and 27 is/are allowed.

6) Claim(s) 2-5,11-19,25 and 26 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

Amendment filed on 4-25-05 has been received and entered in the case. Claims 2-5 and 11-27 are pending wherein claims 25-27 are newly added claims.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no description of "a mixer" in the body of DESCRIPTION section and no figure shows "a mixer" as well.

3. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitation "'the count value is above a threshold" is not supported by the specification. Specifically, no threshold is discussed in the specification.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 11-16 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation "radio frequency circuitry and baseband circuitry", lines 2-3 of claim 11, appears to be misdescriptive since the specification merely discussed about radio frequency and baseband frequency. There is no specific structure of radio frequency circuitry and baseband circuitry in the disclosure.

Claims 12-15 and 25-26 are rejected for being dependent on the rejected claims.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-5, 11-12, 15-19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Hotta et al reference (U.S. Patent 5,133,064).

Hotta et al discloses in figures 21 and 22 a PLL circuit comprising a high frequency clock oscillator 1303, a counter 1304 coupled to the clock oscillator, and a controller 1305 coupled to received an output of the counter to generate a low frequency clock K1 with an asymmetrical duty cycle as partially required by claim 11. It is noted that col. 2, lines 35-37, indicates that the operating frequency is 40Mhz which is well within the range of radio frequency and baseband frequency (i.e., 3Khz-300Ghz).

Hotta does not disclose his circuit is used in a wireless receiver as particularly required by the claim.

An Official Notice is taken for the above fact since it is well known in the art that a cellular phone (i.e., wireless receiver) commonly contains a PLL to generate a clock signal in sync with the input signal.

As to claim 12, figure 22 shows signal 1322 has higher frequency relative to the signal K1.

As to claim 15, figure 22 shows the controller changes the position of a falling edge of a symmetrical clock 1323 relative to the position of a rising edge of the symmetrical clock to obtain the asymmetrical duty cycle.

As to claim 16, the controller 1305 changes duty cycle of the input (i.e., graph 1323 vs. K1). Therefore, it minimizes the n-th harmonic and changes the magnitude of other harmonic.

As to claims 2-5 and 17-18, they are rejected for reciting a methods/steps derived from an apparatus of claims 11-12 and 15-16 that is rejected as noted above. Further, it is inherent that the predetermined duty cycle is changed based on counter value of divider (i.e., either divider 1304) and “to reduce a harmonic of the high frequency clock signal in the wireless transceiver” is seen as a result of the above structure.

As to claim 19, as best understood, figure 22 shows a falling edge of the low frequency clock signal is triggered when signal 1323 drop above a threshold (i.e., half way of falling edge of 1323).

As to claim 25, figure 32 discloses entire of the apparatus being on a single substrate 3100.

8. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Hotta et al reference (U.S. Patent 5,133,064) in view of the Canfield et al. reference (U. S. Patent 6,310,922).

Hotta et al discloses all the claimed invention except for teaching a counter is a down or programmable down counter as required by claims 13 and 14.

However, Canfield discloses in figures 5 and 6 a programmable down counter for use in signal synchronization as required by claims.

It would have been obvious to one skilled in the art, at the time the invention was made, to replace a generic counter in Hotta et al with a programmable down counter taught by Canfield because such a counter would provide further capability of adjusting the duty cycle of signal and/or fast synchronization.

A skilled artisan would have been motivated to combine these arts to achieve a better range of duty cycle.

#### *Response to Arguments*

9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection to reflect amendment of claims.

#### *Allowable Subject Matter*

10. Claims 20-24 and 27 are allowed.

11. Claim 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

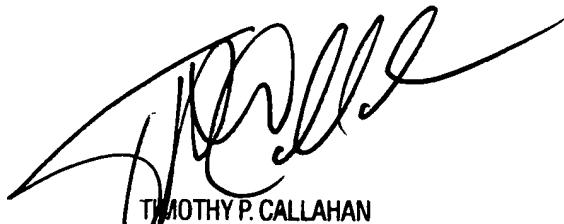
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 571-272-1746. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

An T. Luu  
5-24-05 *ATL*



THOMAS P. CALLAHAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800